



ARIZONA DEPARTMENT OF COMMERCE

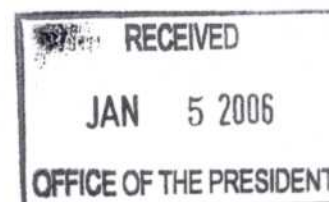
JANET NAPOLITANO
GOVERNOR

Our Job is JOBS!

GILBERT JIMENEZ
DIRECTOR

January 3, 2006

The Honorable Ken Bennett
President, Arizona Senate
1700 West Washington
Phoenix, AZ 85007



Dear Senator Bennett:

On behalf of Ed Koopman and the Arizona Aerospace and Defense Commission, may I present the 2005 Progress Report for the State of Arizona Strategic Plan for the Aerospace and Defense Industry, in accordance with the provisions of ARS 41-1564 (D).

The first meeting of the Arizona Aerospace and Defense Commission took place on May 19, 2005. During the period covered by this report, the Board focused on gathering input from a wide variety of sources and conducted a preliminary survey to verify and prioritize top issues and concerns relating to Arizona's aerospace and defense businesses.

In addition, the Board has identified a number of action steps to guide its work in 2006. These action steps include conducting an economic impact analysis of the industry in the state, conducting a competitive analysis of the business attraction efforts of competing jurisdictions and an assessment of various workforce development topics.

The Commission hopes you find the information useful. Our members look forward to providing additional reports and recommendations in 2006 that will assist your efforts in ensuring a vibrant economic future for the knowledge-based economy in Arizona.

Sincerely,

Gilbert Jimenez
Director, Arizona Department of Commerce



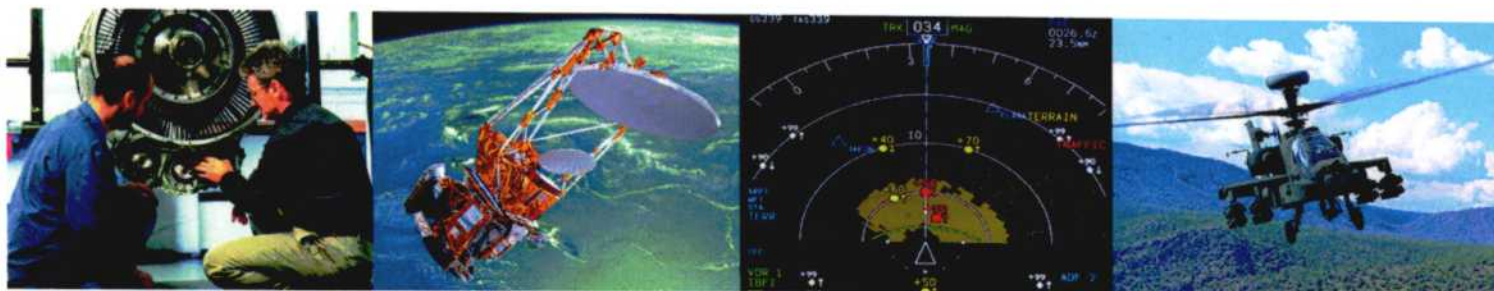
ARIZONA

Aerospace and Defense Commission

2005 Progress Report
for the

State of Arizona Strategic Plan
for the
Aerospace and Defense Industry

December 30, 2005



ARIZONA Aerospace and Defense Commission

Statement of Purpose

The Arizona Aerospace and Defense Commission is the state's primary coordinator of all aerospace and defense related state, government, and commercial partnerships. The Commission is tasked with developing an aerospace and defense strategic plan that builds synergy between government, industry and education. The Commission shall submit a report of its findings to the Governor, the President of the Senate, the Speaker of the House of Representatives, the Secretary of State and the Director of the Arizona State Library, Archives and Public Records on or before December 31 of each year.

History of the Commission

The Aerospace and Defense Commission was created in 2004 by an act of the 46th Arizona State Legislature, Senate Bill 1249.

The statutes enabling the Arizona Aerospace and Defense Commission are found in A.R.S. §§ 41-1561-1564.

The first meeting of the Commission took place on May 19, 2005. During the second meeting on June 16, 2005, Commission member Edward Koopman, General Manager of The Boeing Company facility in Mesa, was elected to serve as the Chair of the Arizona Aerospace and Defense Commission.

In subsequent meetings, the Commission received presentations and input from a wide range of sources, and engaged in discussions and activities leading to the specific Commission accomplishments noted herein and to this statutorily authorized report.

Vision

The Arizona Aerospace and Defense Commission's vision is to ensure Arizona remains one of the nation's leaders in aerospace and defense.

With a global reach and a local focus, it is the Commission's philosophy to maintain both a long-term perspective while being relevant for today's changing technology, demographics and business opportunities in the industry.

The Commission will address the strategic resource, economic, educational and developmental aspects of the entire enterprise including aviation, space, defense, research and technology and education.

The foundation of the Commission's vision is predicated on the development, use and maintenance of an aerospace and defense strategic plan that will identify ways to build synergy between government, industry and education.





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Mission

The Aerospace and Defense Commission's mission is to provide a state strategy that empowers and positions Arizona to realize its potential as a premier domestic and international center for the attraction and growth of aerospace and defense related endeavors. Specifically, the Commission identifies issues and opportunities for action and advocacy, with industry, government, and education, to advance economic opportunities for Arizonans by promoting a business environment that is globally competitive and able to retain and attract the knowledge-based enterprises that provide high wage jobs.

Situation Analysis

Arizona's entry into aerospace came early, dating back to WWII with Motorola developing military radios and communications and the Army Air Corps running bomb training flights at the airports in Kingman, Holbrook, Flagstaff, Winslow, and Tucson. In the years after the war, many of the familiar industry names, including General Dynamics, Goodyear Aerospace, and Hughes Aircraft established Arizona operations, culminating in The Boeing Company's move of its helicopter business from California to Arizona in 1982. Honeywell's Aerospace business became a leading avionics and aircraft engine supplier by acquiring Sperry Aerospace in 1986, and merging with AlliedSignal Aerospace in 1998. Both companies had operations in Arizona dating back to the 1920s and the beginnings of aviation.

Since that time, while the aerospace and defense industry continues to make a significant contribution to Arizona's economy, much of the investment and job growth can be traced to expansions from companies that already have a presence in the state. Some of these expansions have been significant. For example, with the purchase of General Dynamics' missile business in the mid-1990s, Hughes Aircraft Company consolidated missile systems integration, engineering and manufacturing operations from across the country in Tucson. With the merger of Hughes and Raytheon Company in the late 1990s, there was additional consolidation. And more recently, General Dynamics acquired locally grown Spectrum Astro and continues to expand today in Arizona.

In the last 10-15 years, domestic and global competition for jobs and capital investments has become extremely intense. During this period, Arizona has not fared well in attracting significant new companies or even attracting new programs from companies which have operations in the state. Recent successes in attracting new commercial and civil aviation programs in Alabama, Utah, New Mexico, South Carolina, Washington, Texas and Kansas suggest that Arizona's future success in aerospace and defense may well depend on adapting to the current realities and challenges posed by the global marketplace for jobs and investment. This is essential if Arizona is to take advantage of new opportunities created by emerging technologies. One example is the nascent space tourism industry, where states like California and New Mexico are trying to take advantage of recent legislation.





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Arizona's continued success in aerospace and defense requires a focused effort to identify, understand, and correct the current factors negatively impacting Arizona's attraction efforts as a place both for companies with an established presence in Arizona and those looking to locate future operations.

Arizona's economic development strategy must recognize the State's inherent strengths and weaknesses to craft a business environment that allows the state to successfully compete with other jurisdictions for these high wage jobs.

Despite mounting evidence of the role that the business environment and incentive packages play in today's highly competitive arena, Arizona has not undertaken a coordinated competitive analysis of programs offered by rival states. In addition, anecdotal evidence seems to suggest that Arizona currently does not offer a competitive incentive package or program to locate Aerospace and Defense companies within the state.

Additional Characteristics of the Current Situation:

- The commercial and defense aerospace enterprise is facing unprecedented competitive and economic challenges as a result of the rise in international competition and unclear government priorities.
- Many aircraft component manufacturers have downsized facilities and employment in the face of stiff competition often from foreign firms financially subsidized by their governments.
- Recovery from the decline of the commercial transport market is becoming visible throughout the commercial aerospace industry in Arizona.
- The industry as a whole continues to face significant challenges related to qualified workforce shortages and a fluctuating commitment to funding significant defense-related programs in Arizona.
- Small, women-owned, and minority-owned businesses depend on support from Arizona aerospace and defense companies. For example, Honeywell, Raytheon, and The Boeing Company together spend more than \$819.7 million annually with small and minority-owned businesses in Arizona. Honeywell has nearly 1,300 direct and indirect material supply companies in the state that qualify as small businesses. The Boeing Company invested \$20 million with contract awards to women-owned businesses in 2004, while Lockheed Martin invested \$8.3 million with small disadvantaged businesses.
- Although Arizona universities and education systems produce engineers and technicians that are a potential source of in-state talent, significant numbers leave for opportunities in other states.



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Commission Accomplishments

In 2005, the Aerospace and Defense Commission:

- Created preliminary plan for development of a strategic plan to address workforce, education, economic development and competitiveness issues.
- Conducted initial survey of A & D commissioners to prioritize industry issues.
- Appointed liaisons to state commissions/organizations to support state workforce and marketing issues, i.e the Governor's Council on Innovation and Technology; Military Affairs Commission and Governor's Council on Workforce Policy.
- Building on the Arizona Statewide Economic Study that identified 11 economic regions, the Commission further defined regions based on the concentrations of aerospace and defense companies and the presence of a university anchor. (See page 9).
- Defined the aerospace industry stakeholders to serve as a base for communication within the industry and for future surveys and studies. (See page 8).
- Defined industry, government, education and economic development strategic partners. (See page 7).
- Developed a concise summary on the role of education for the aerospace and defense industry.

Goals and Objectives

- Communicate industry value and increase advocacy among all stakeholders through publicizing results of an economic impact analysis. The Commission will identify and promote awareness of the strengths unique to Arizona and capitalize on these.
- Examine and identify the competitive elements of the national business environment, including availability of venture capital, that impact the attraction and retention of jobs in the aerospace and defense industry, including national research and development.
- Develop and recommend strategies to ensure Arizona's attractiveness relative to competing jurisdictions for future commercial and government projects.
- Identify strategies to attract cutting-edge technology businesses and high paying jobs to Arizona.
- Support the Governor's Council on Innovation and Technology legislative initiatives that enhance Arizona's business climate. Endeavor to provide access to capital for commercializing new technologies.
- Ensure the availability of an educated and skilled workforce to support present and future industry requirements by:
 - I. Working with the Governor's P-20 Council to examine and develop policies to increase the number of engineers and technicians graduating from universities and community colleges with skills required by industry.





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2. Increasing awareness/visibility in K-12 schools of aerospace and defense industry careers.
2. Advising the Governor's Council on Workforce Policy and helping to execute plans for the Aerospace and Defense Workforce Training Grant.
3. Evaluating the graduation rates in aerospace and defense-related programs (i.e. engineers, manufacturing and business support personnel) and examine the low retention rate for Arizona's aerospace and defense industry to determine the cause and identify solutions.

2006 Milestones and Action Steps (Deliverables)

- Survey industry to verify and prioritize top issues/concerns.
- Secure resources to fund economic impact analysis and research projects.
- Conduct economic impact analysis of the industry in Arizona.
- Conduct competitive analysis by benchmarking other states, including business attraction elements.
- Examine the graduation rate in aerospace and defense-related programs and determine cause of low retention of graduates.
- Complete Arizona industry SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis.
- Develop and deliver a strategic plan with short- and long-term horizons by year-end 2006.

Strategic Plan Preliminary Areas of Focus

The Aerospace and Defense Commission conducted a survey of Commission members to identify the top issues facing the industry in Arizona today. The preliminary areas of focus and associated recommendations identified by the responses provided direction for the Commission to begin the strategic planning process. The recommendations listed are broad in scope and will narrow in focus with additional input from industry.

An additional industry survey with broader reach and more depth is critical. Plans are to also conduct an industry economic impact analysis, competitive analysis, and to incorporate data from recently completed studies into the final strategic plan that will be submitted in December 2006. Additionally, the Commission will review other commissions'/councils' strategies and plans to identify synergies to move aerospace and defense forward in Arizona.

Area One: Economic Development and Competitiveness

The Commission shall strive to study methods to:

- Quantify, communicate and market economic value of industry to citizens, elected officials and decision-makers and establish Arizona as the preferred location for new business and growth.





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- Support competitive tax structure and legislation that ensures a competitive business environment for aerospace and defense and other high tech industries.
- Recommend tax, regulatory and incentive policies to state government to enable greater competitiveness for the state.
- Support the existing economic development branding and marketing campaign and augment with a program to promote the aerospace and defense industry within the state.
- Preserve military and commercial flight corridors and work in conjunction with the Military Affairs Commission.

Area Two: Workforce Development

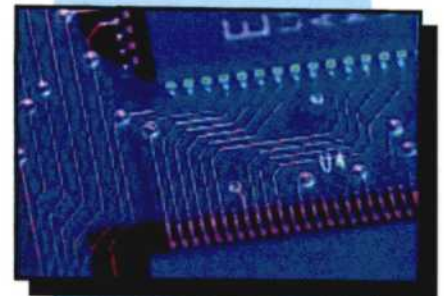
The Commission shall strive to study methods to:

- Develop program to attract and retain more skilled workers in Arizona.
- Support P-20 education programs to increase student awareness of technical education advantages and attract more traditional and diverse students into engineering and technical careers.
- Work with public, charter, and parochial schools and the Governor's P-20 Council to develop new or support existing programs to attract more elementary school students into math and science programs.
- Encourage public, charter, and parochial schools to incorporate high school technical and pre-engineering academic programs.
- Create new or support existing programs, scholarships and internships to encourage students to pursue college degrees in math, science and engineering.
- Coordinate with universities, community colleges and the Joint Alliance of Companies Managing Education for Technology (JACMET) for cross-training and other training programs to focus on skills needed by the industry.

Area Three: Communication, Collaboration, and Partnerships

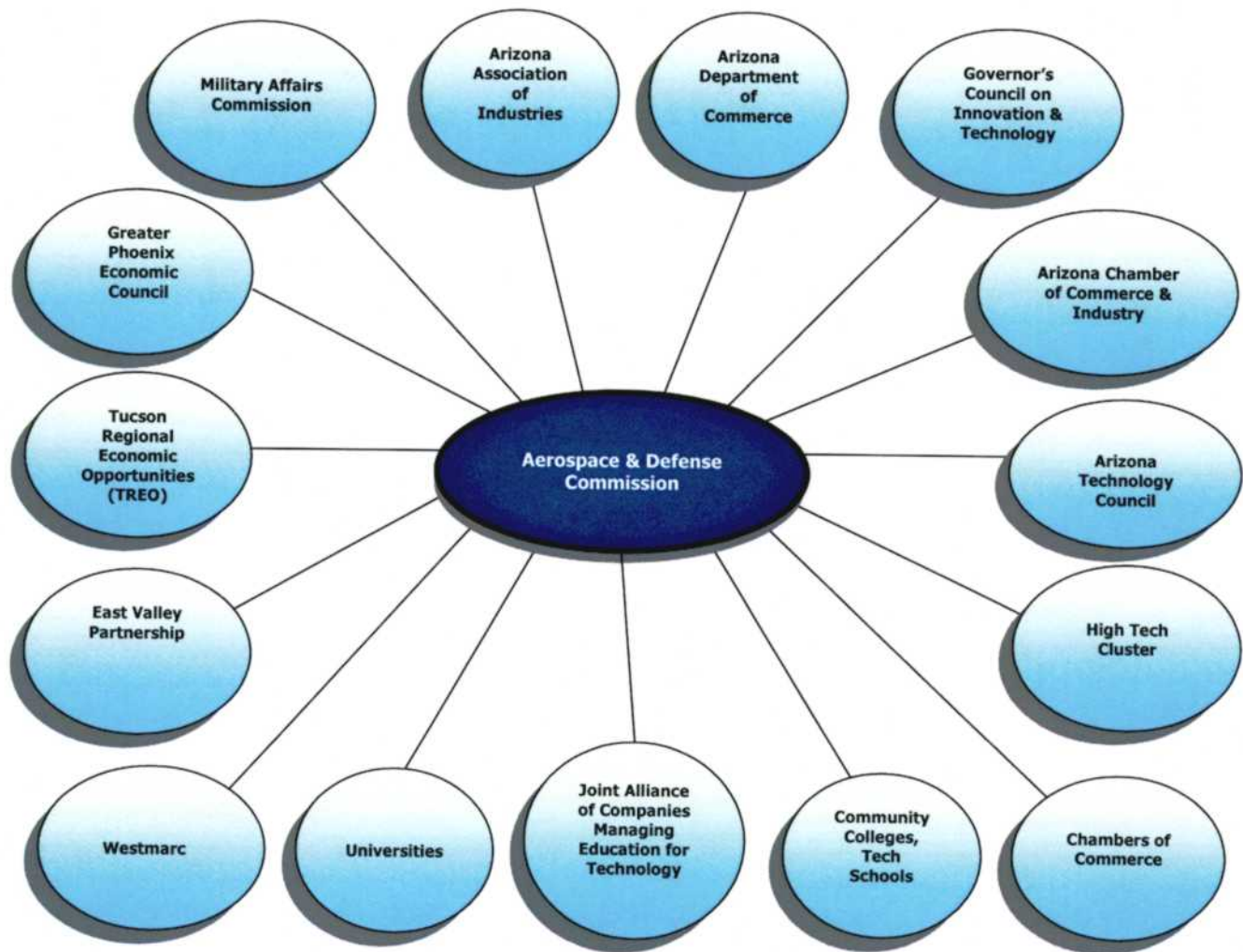
The Commission shall strive to study methods to:

- Broaden and strengthen the communications and cooperation between industry sectors, government, and stakeholders.
- Build partnerships with Commissions, economic development organizations and other related groups.
- Increase collaboration between state government, academic institutions and industry.
- Develop strong relationship with the Military Affairs Commission.



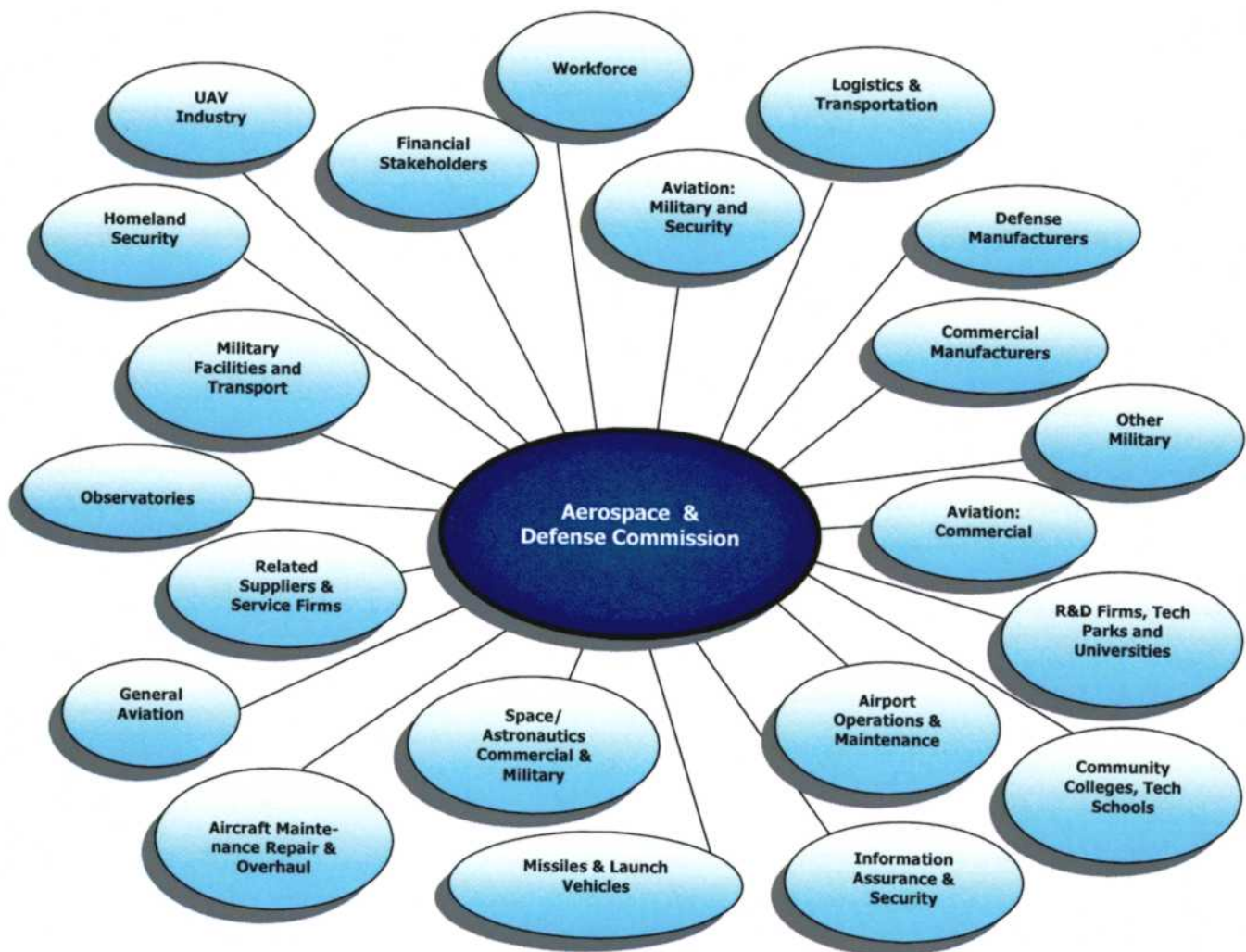
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Arizona Aerospace and Defense Commission Liaison Organizations



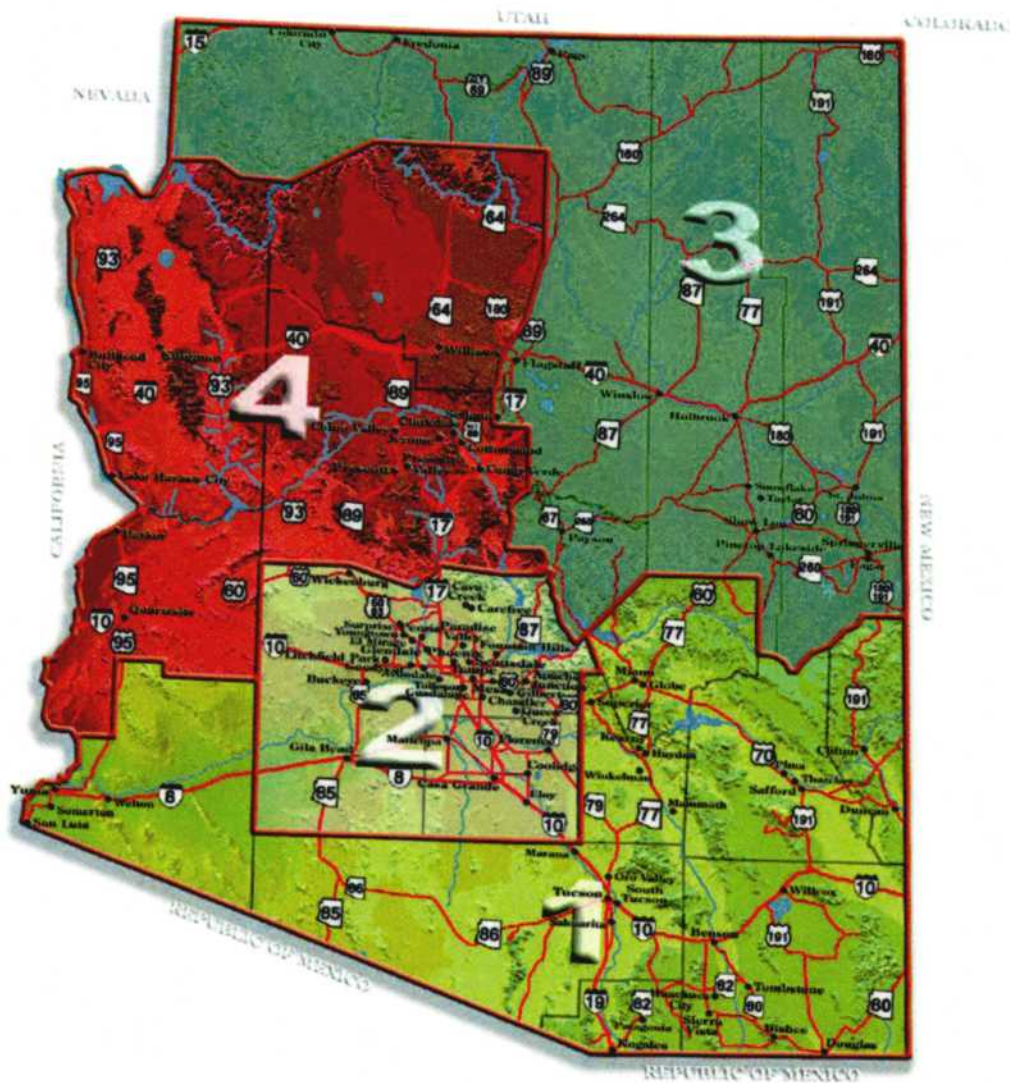
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Industries and Stakeholders in the Arizona Aerospace and Defense Cluster



ARIZONA Aerospace and Defense Commission

Regional Map



Region 1 : Southern
Region 2 : Central
Region 3 : Northeast
Region 4 : Western



ARIZONA Aerospace and Defense Commission

Arizona Aerospace and Defense Commission Members:

Chair:

Edward Koopman
The Boeing Companies

Members:

Robert F. Daly
DRS Technologies

Sandeep Gopalan
College of Law
Arizona State University

Gilbert Jimenez
Arizona Department of Commerce

Matthew John Korbeck
Zhong Technologies

Jerald Alan Lindfelt
Lockheed Martin

Valentine Malutin
VVM Flight Ltd.

The Honorable Dean Martin
Arizona State Senator

Marlene T. Platero
Advanced Ceramics Manufacturing

Don Rabern
Embry Riddle University

Kumar Nanjunda Rao Ramohalli
Space Engineering Research Center
University of Arizona

Mark David Schultz
Raytheon Company

Ronald Fredrick Taylor
General Dynamics

The Honorable Jerry Weiers
Arizona House of Representatives

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Jaye O'Donnell
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